

**CRAB ORCHARD NATIONAL WILDLIFE REFUGE CERCLA PROJECT
MONTHLY PROGRESS REPORT
OCTOBER 2018**

**ADDITIONAL AND UNCHARACTERIZED SITES
OPERABLE UNIT (AUS OU)**

1.0 Actions toward Achieving Compliance

Feasibility Study (FS)

The U.S. Fish and Wildlife Service (FWS) continues to provide technical direction to Shannon and Wilson Inc. (SWI) on the development of the draft full FS pursuant to the Administrative Order on Consent.

Community Involvement

FWS conducted outreach activities to provide opportunities for the public to learn about and be involved with the environmental investigation activities at the Site. These outreach activities included a fact sheet, news release, public notice, updates to the Crab Orchard National Wildlife Refuge web site, letters to local government officials and civic organizations, interviews with the media, and an Open House on Tuesday, October 23, 2018.

Natural Attenuation in Groundwater

Preliminary review of the carbon isotope data and the trends in concentrations for the volatile organic constituents suggests that biodegradation of organic solvents in the groundwater has occurred in several of the wells of the monitoring network. SWI is summarizing these results to help determine whether natural attenuation is an appropriate remedial alternative or part of a remedial alternative for the FS.

Area 8 Copper Site

A pond in Site 0A8S contains dissolved copper from buried waste in a dump along the shoreline and beneath the water. In the southwest area of the pond, surface water discharges through a culvert and overflows a low spot of the road under heavy rain events or high water levels into the creek. A surface water sample is collected from the pond monthly and tested for dissolved copper.

Evaluation of Future Groundwater Risk

The Revised Groundwater Risk Assessment by AECOM and the FWS/AECOM responses to agency comments were distributed among the Federal Facility Agreement agencies on October 2nd. The results of the assessment indicated that exposure to contaminated groundwater has the potential to be harmful for human health, plants, or animals related to non-potable water uses associated with the purposes of the Federal facility including conservation, recreation, industrial, and agricultural. In general, none of the levels of concern for the various contaminants of concern was less than the State's groundwater quality standards for Class I or Class II conditions. The State's groundwater quality standards continue to serve as Applicable or Relevant and Appropriate Requirements (ARARs) and the Preliminary Remediation Goals for restoration of the contaminated groundwater.

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2.0 Status/Results of Sampling, Tests, and Other Data

- The results for dissolved copper and hardness parameters, calcium and magnesium, were received for the surface water sample collected October 3rd from Area 8 South Copper Pond. The dissolved copper concentration of 6.8 ug/L exceeded the water quality criteria for the protection of aquatic life (chronic criteria of 5.44 ug/L). The dissolved copper concentrations appear to be influenced by soft water conditions associated with rainfall events.

3.0 Actions Scheduled for Next Month

- Continue to provide technical direction to S&W on preparation of the FS.
- Evaluate results of monitored natural attenuation bench study.
- Explore options for management or containment of surface water at Area 8 Copper Pond.
- Conduct surface water sampling at Area 8 Copper Pond.

4.0 Modification or Delays Encountered or Anticipated

None to report.

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AREA 7 PESTICIDES SITE

1.0 Actions toward Achieving Compliance

The FWS issued a Notice of Completion letter on October 17th to Great Lakes Synergy for the work performed pursuant to the Administrative Order on Consent for the Engineering Evaluation/Cost Analysis (EE/CA). Formal negotiations continue with Great Lakes Synergy for the response activities at the Site. The legal team has drafted a Consent Decree. The final Removal Design Removal Action (RD/RA) Work Plan and associated documents will serve as attachments for the Consent Decree to define the scope of work for the implementation of the response action. Great Lakes Synergy is prepared to conduct the removal action in 2019 pending the Consent Decree settlement. The sequence of work includes removal of the warehouses followed by soil sampling to delineate the excavation boundaries followed by soil removal with off-site disposal and site restoration.

FWS continues to provide technical direction to TRC on preparation of documents for implementation of the response action. TRC submitted a Final Health and Safety Plan on October 2nd and Final Sampling and Analysis Plan (SAP) on October 5th. The Final SAP has been routed for Federal Facility Agencies' signature.

2.0 Status/Results of Sampling, Tests, and Other Data

None to report.

3.0 Actions Scheduled for Next Month

- Obtain signed Sampling and Analysis Plan and finalize Site Restoration Plan.

4.0 Modification or Delays Encountered or Anticipated

None to report.

5.0 Other Significant Activities

None.

6.0 Personnel Changes

None to report.

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PCB OPERABLE UNIT

1.0 Actions toward Achieving Compliance

Plumes 1 and 3 Operations and Maintenance

Plume 1 Groundwater Pump and Treat

Operations and monitoring for the pump and treatment system continued without problems. The average flow through the system was 3.3 gallons per minute. No PCBs were detected in the effluent.

Seventh Annual Groundwater Monitoring Report (AMR)

Comments on the Seventh AMR were received from U.S. Environmental Protection Agency (USEPA) on October 19th. Written responses to comments are being prepared.

Updated Quality Assurance Project Plan (QAPP) and O&M Plan

The FWS is updating the QAPP and O&M Plan to reflect changes in project organization due to the shift in responsibilities from Schlumberger to the FWS. The QAPP will be consistent with USEPA Uniform Federal Policy.

Plume 2 Remedial Design

The consent decree amendment for the Plume 2 interim remedy is under review by U.S. Department of Justice.

2.0 Status/Results of Sampling, Tests, and Other Data

Water samples are collected monthly for operation of the groundwater pump and treat system.

3.0 Actions Scheduled for Next Month

- Complete updates to the QAPP and O&M Plan.
- Revise the Seventh Annual Groundwater Monitoring Report in response to comments.
- Continue monthly sampling of the groundwater pump and treat.

4.0 Modification or Delays Encountered or Anticipated

None to report.

5.0 Other Significant Activities

None to report.

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6.0 Personnel Changes

None to report.